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HARDWOOD FORESTS OF THE SOUTH

USE • PROTECT • MANAGE

J. S. McKnight



U. S. DEPT. OF AGRICULTURE
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APR 25 1955

C & R REP

HARRY
ROSSOLL

SOUTHERN FOREST EXPERIMENT STATION

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SOUTHERN REGION

Forest Service, U. S. Department of Agriculture

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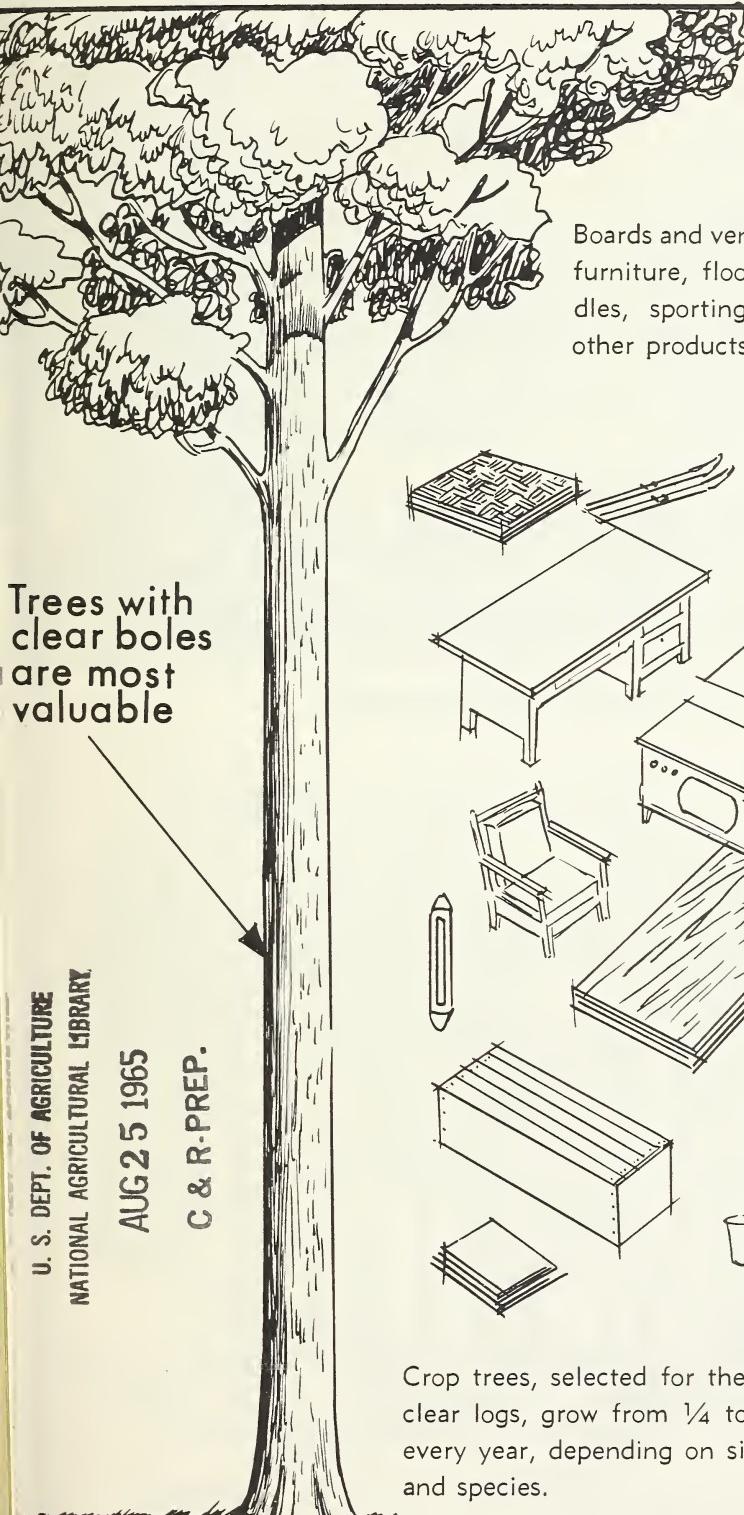
Demand is greatest, and prices are best, for trees containing high proportions of wood usable in such products as fine furniture and architectural trim. But tremendous increases in demand for hardwood pulps have provided outlets for wood not suited to sawed or sliced products. The pulp industry also is a mass outlet for trees removed in the necessary thinning of young stands.

The likelihood of a strong and continuing demand for quality timber means that it will pay landowners to protect and manage hardwoods that are growing on suitable sites. In doing so, they will also be improving the forest for wildlife.

Illustrations by Harry Rossoll, U.S. Forest Service, Southern Region.

1965

86737 HARDWOODS HAVE MANY USES



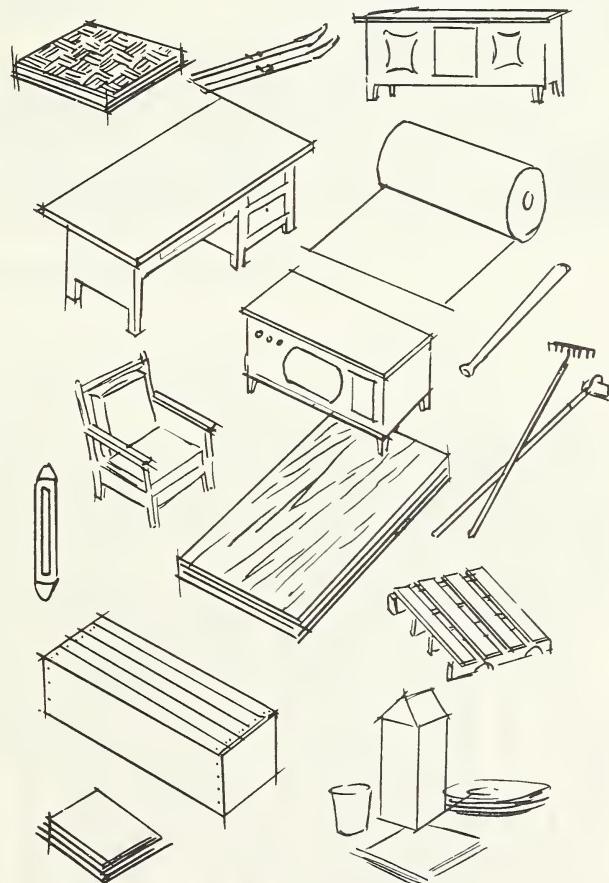
Boards and veneers are used to make furniture, flooring, implement handles, sporting goods, and myriad other products.

Trees with
clear boles
are most
valuable

AUG 25 1965

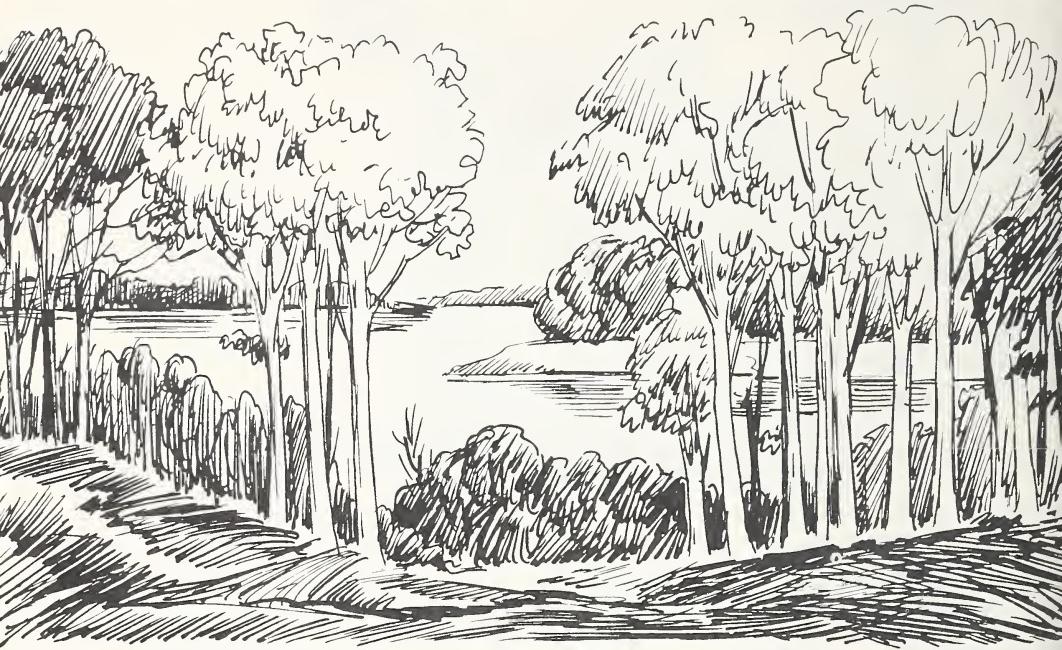
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C & R-PREP.



Crop trees, selected for their ability to produce clear logs, grow from $\frac{1}{4}$ to 1 inch in diameter every year, depending on site, density of stand, and species.

WHERE THE HARDWOODS GROW



RIVER-BOTTOM LANDS



CREEK AND STREAM BOTTOMS IN PINEY WOODS

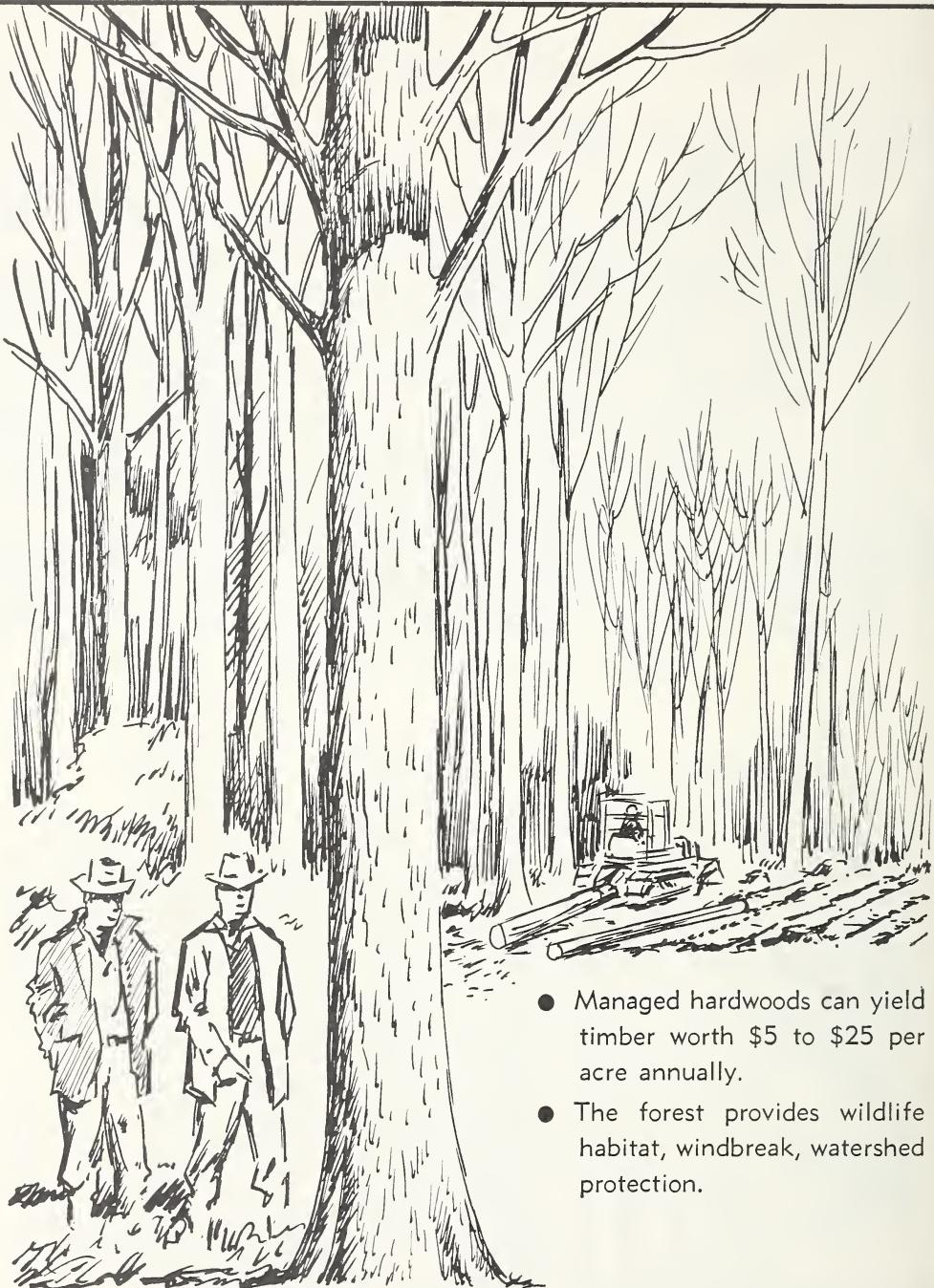


DEEP, RICH UPLAND SOILS



SWAMPS

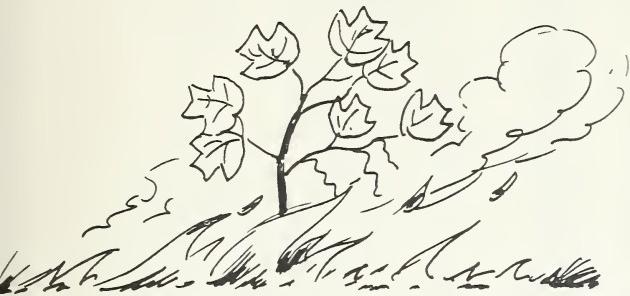
GROWING HARDWOODS—A GOOD LAND USE



- Managed hardwoods can yield timber worth \$5 to \$25 per acre annually.
- The forest provides wildlife habitat, windbreak, watershed protection.

CONSIDER BEFORE CLEARING: In many situations timber growing is more profitable in the long run than other land uses. It is more difficult to re-establish a hardwood forest than to destroy it!

PREVENT FIRE!



Fire kills seedlings and destroys litter that holds moisture and provides nutrients.



It wounds
large trees,
allowing rot
to enter.

ONCE WOUNDED, A TREE MAY LIVE FOR YEARS, BUT ADVANCING ROT WILL CANCEL ANY VALUE GAINED BY GROWTH.



Dry autumns, particularly after heavy frost, are ordinarily the dangerous periods. Unusually dry winters or early springs also call for extra vigilance.

CONTROL CUTTING TO IMPROVE STANDS

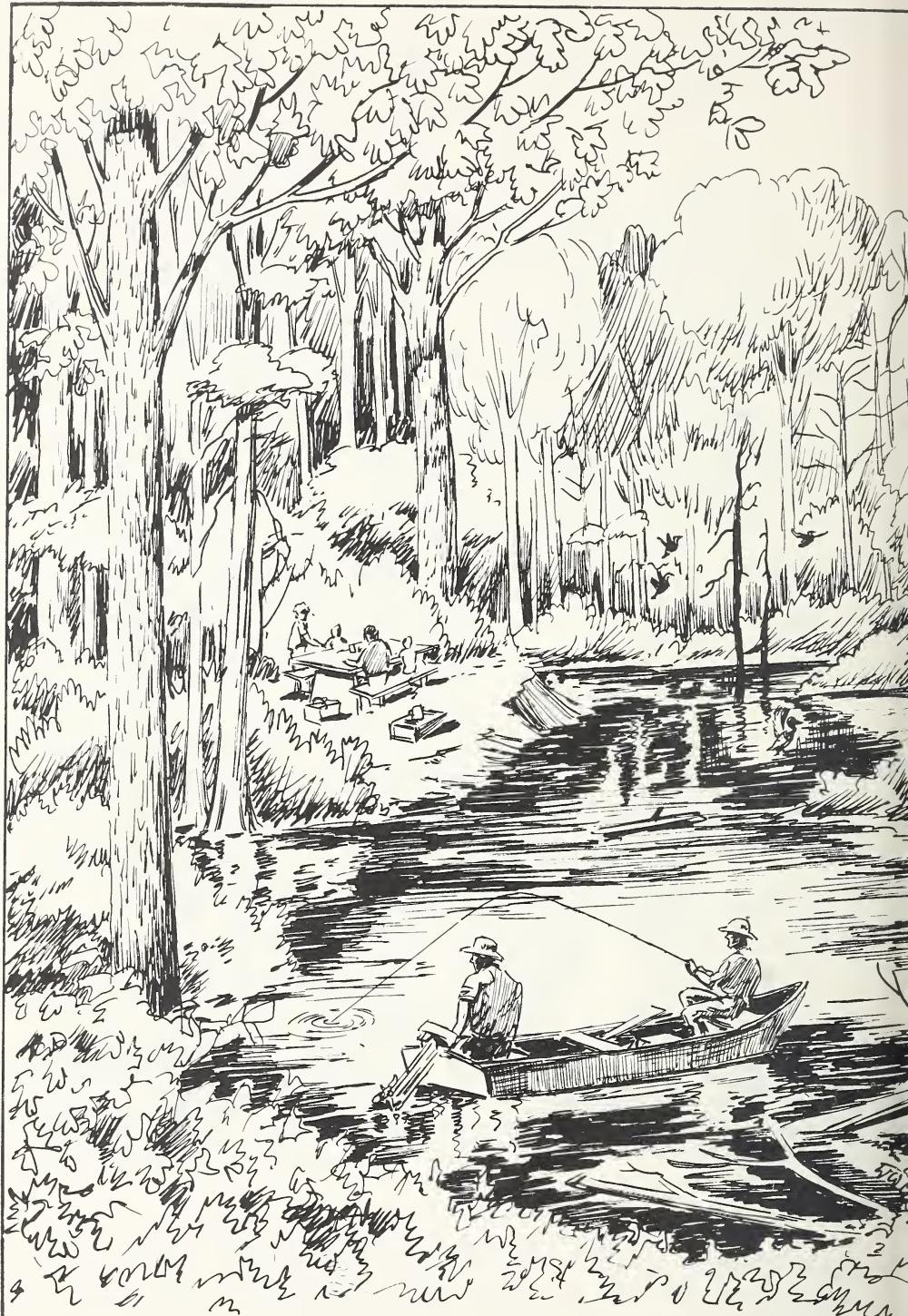


- Supervise fuelwood cutting. Restrict it to trees useful only for this purpose. In some areas woodcutters have done as much damage as fire in eliminating hardwoods that would have been much more valuable for higher uses.
- Discourage premature harvesting for fence posts, pulpwood, or small logs. Thrifty trees of good form and grade should be left to grow. They add value at a rate that makes them an excellent investment.

ELIMINATE CULL TREES



Many hardwood stands are cluttered with insect-ridden, rotten, and malformed trees that have no value except for fuelwood. It will pay to deaden such trees if they are interfering with the growth of good trees or if they occupy space that would be taken over by desirable seedlings.



Manage Hardwood Forests for Game

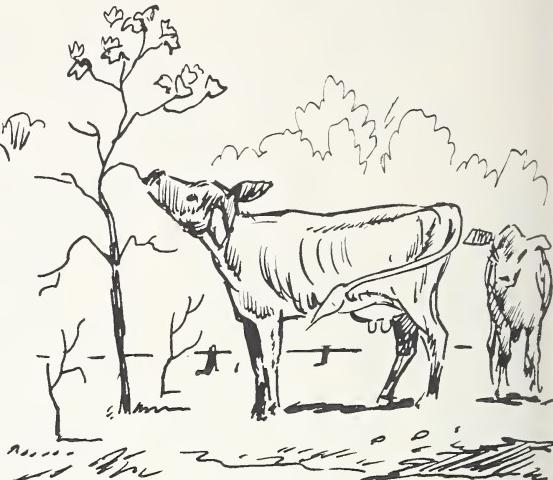


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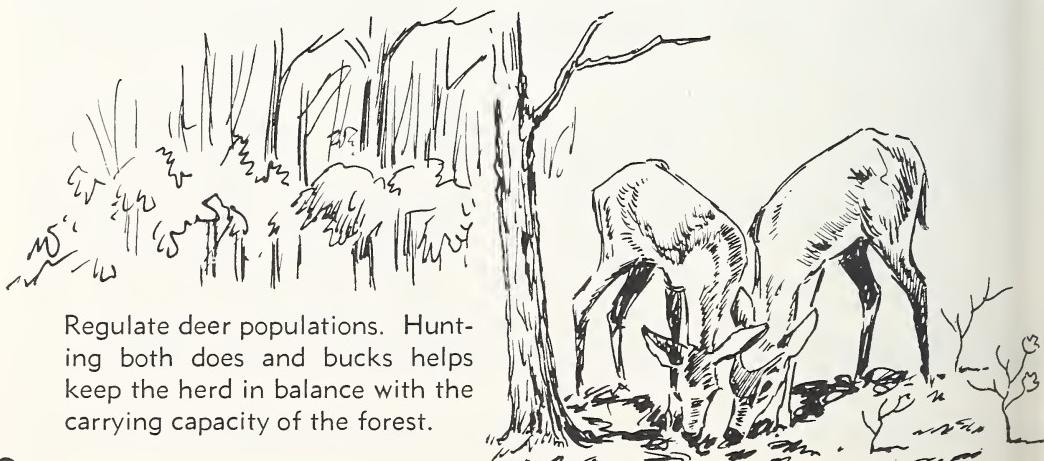
The well-managed hardwood forest is a prime habitat for wildlife. Stands of all sizes from seedlings to sawtimber provide food and cover for the game family of the forest. By producing mast for ducks and shade for fishermen, trees also enhance open water, common in hardwood forests.

TIMBER MAY NEED PROTECTION FROM ANIMALS

Where new seedling stands are wanted, fence out cattle, sheep, goats, mules, and horses. Their browsing prevents the development of well-formed young trees that will provide the timber crops of the future.



Control beavers. They dam watercourses and their ponds kill timber. Feeding on the bark of thrifty trees, they girdle the trunks or wound them for entry of rot.



Regulate deer populations. Hunting both does and bucks helps keep the herd in balance with the carrying capacity of the forest.

THIN YOUNG STANDS



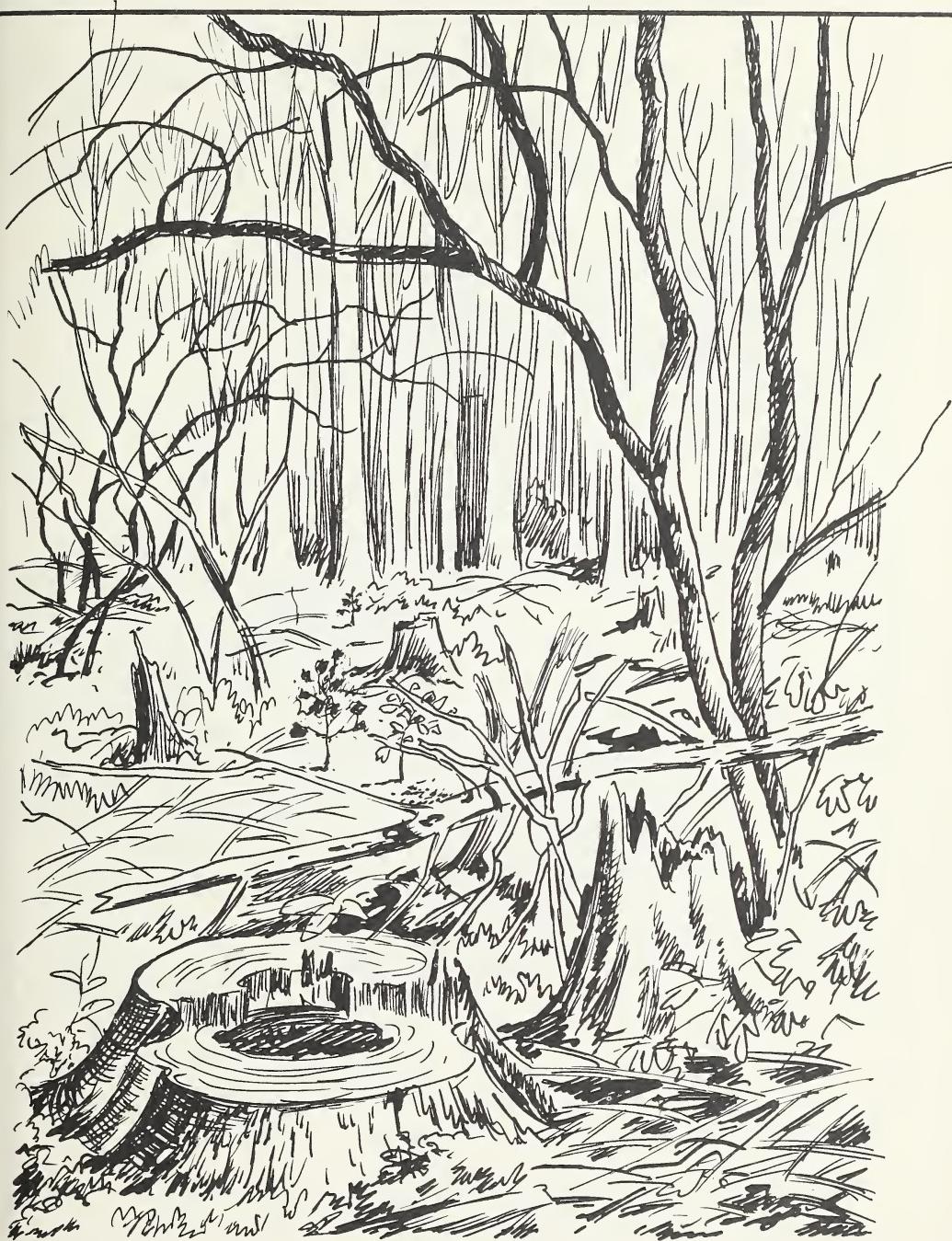
In crowded stands of pulpwood size, thin to give crowns of the thriftiest trees room to expand. Begin by taking out the damaged and weak stems—usually those of smallest diameter (the kind marked here by lines at stump height). Such thinnings provide some income and increase growth rate and earnings on crop trees.

HARVEST MATURE TREES



Hardwood forests usually contain trees of many sizes, species, and qualities. The first several harvests under management will be aimed at removing damaged and slow-growing trees. Later managed cuts will have two chief purposes: to thin and weed the developing stands, and to harvest mature trees for maximum value as well as to encourage regeneration.

CLEAR OPENINGS FOR REGENERATION



Hardwood seedlings require full sunlight in which to develop. Harvest of salable timber often leaves weed and cull trees to flourish in partial openings. These trees should be cut or deadened, to create complete openings of at least one-fifth acre.

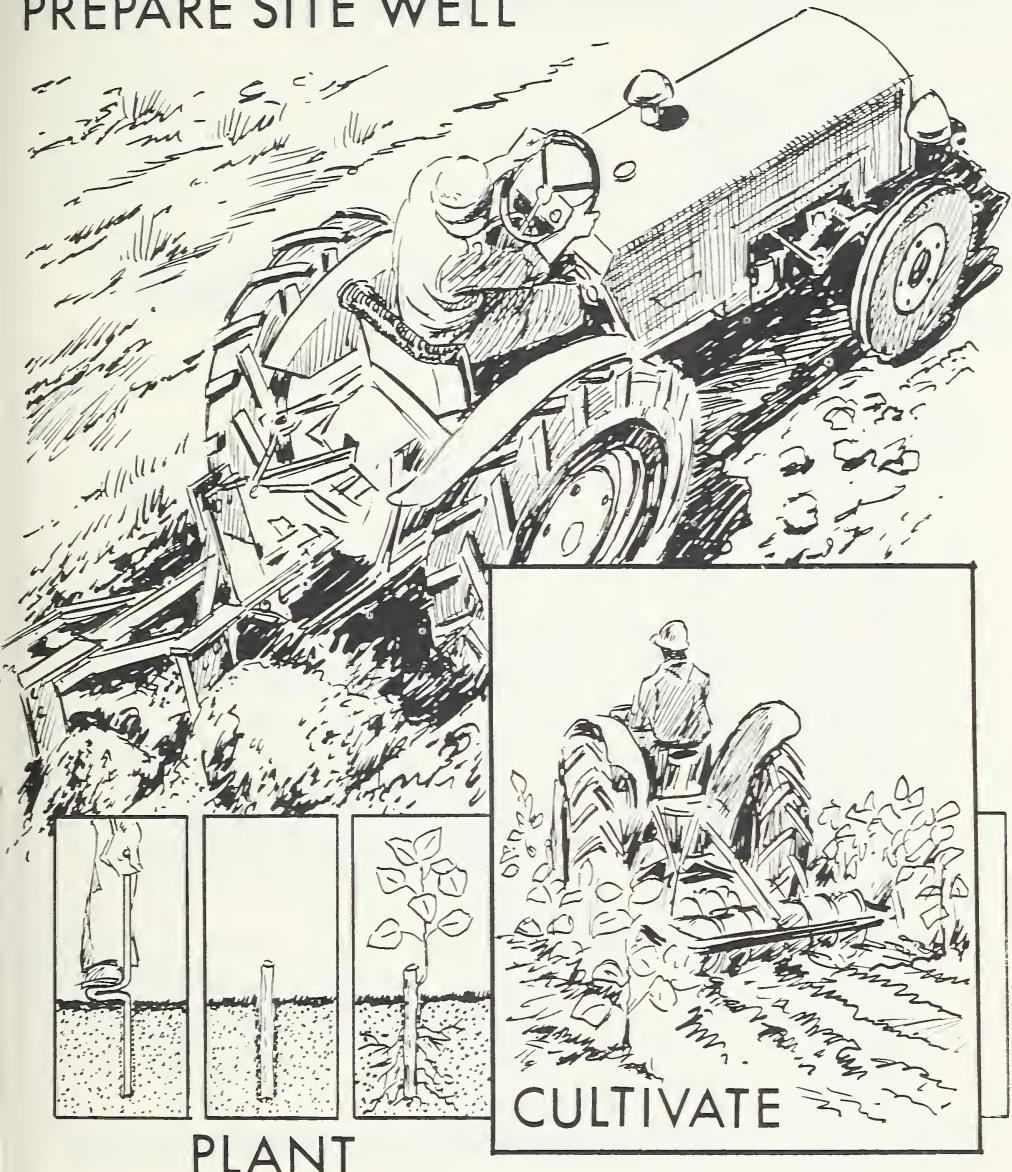
HARDWOOD PLANTING?



- Much is yet to be learned about hardwood planting. Commercial plantations of cottonwood are being made from cuttings. Seedlings of ash, yellow-poplar, red oaks, sweetgum, and sycamore have shown promise in well-tended plantations on good sites.
- Seek information before planting seedlings. Begin on a small scale.

PLANT COTTONWOOD ON RIGHT SITE

PREPARE SITE WELL

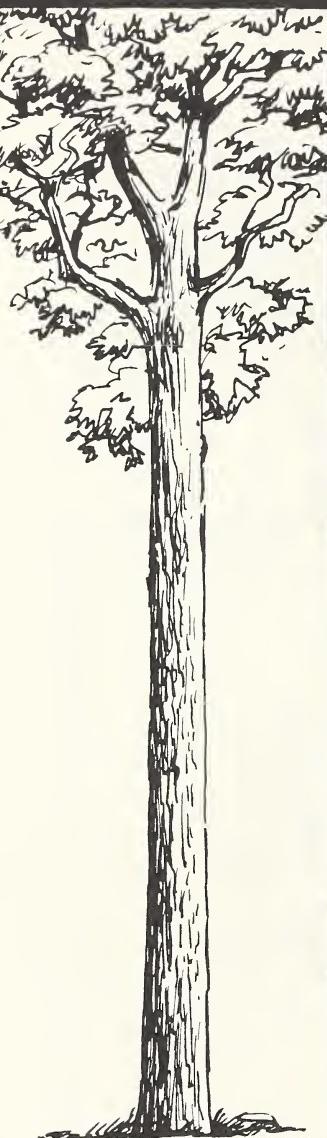


PLANT

CULTIVATE

- Cottonwood does best on moist, well-drained fine sandy loam or silt soils in bottom lands. Coastal Plain soils may need fertilization.
- Cuttings are the most common form of planting stock in the South. Deep-planted seedlings are also used.
- The site must be prepared well. The plantation must be cultivated for a year or two, until the trees form a stand. Intensive management, including protection from insects and diseases, is necessary for highest returns.

MARKET TO OBTAIN BEST RETURNS



PRODUCT CLASSES



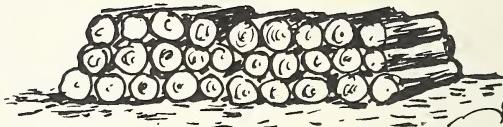
Veneer logs, and high-grade saw logs



Veneer bolts and short high-grade logs



Low-grade logs (local use)



Pulpwood



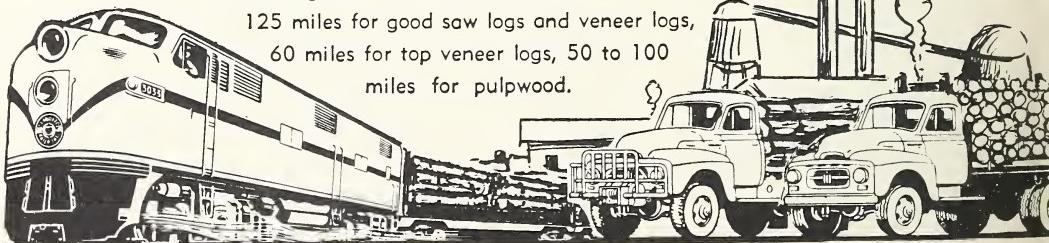
Firewood

Marketing radius (distance from forest to mill):

125 miles for good saw logs and veneer logs,

60 miles for top veneer logs, 50 to 100

miles for pulpwood.



SEEK ADVICE OF A FORESTER!

DON'T GUESS! GET ADVICE FROM A FORESTER. HE CAN HELP IN DETERMINING PROCEDURE, MAKING SALES, AND PLANNING STAND PROTECTION AND IMPROVEMENT.

You can obtain assistance by contacting:

State Forester

Consulting Foresters

Industrial Foresters

State Extension Forester

Regional Forester, U. S. Forest Service,
50 Seventh St., NE
Atlanta, Ga. 30323

